PART IV

Composite Types

Gopher Level

Intermediate

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PART IV

Composite Types

✓ **Arrays**
Collection
of
Elements
Indexable
Fixed Length

✓ **Slices**
Collection
of
Elements
Indexable
Dynamic length

✓ **Strings Revisited**
Read-Only Byte Slices
Indexable
Fixed Length

Maps
Collection
of
Indexable
Key-Value Pairs

Structs
Groups
different types of
variables together

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CREATE A DICTIONARY

Create an English to Turkish Dictionary Program

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English Words	Turkish Words
good	iyi
great	harika
perfect	mükemmel

+ millions of words...

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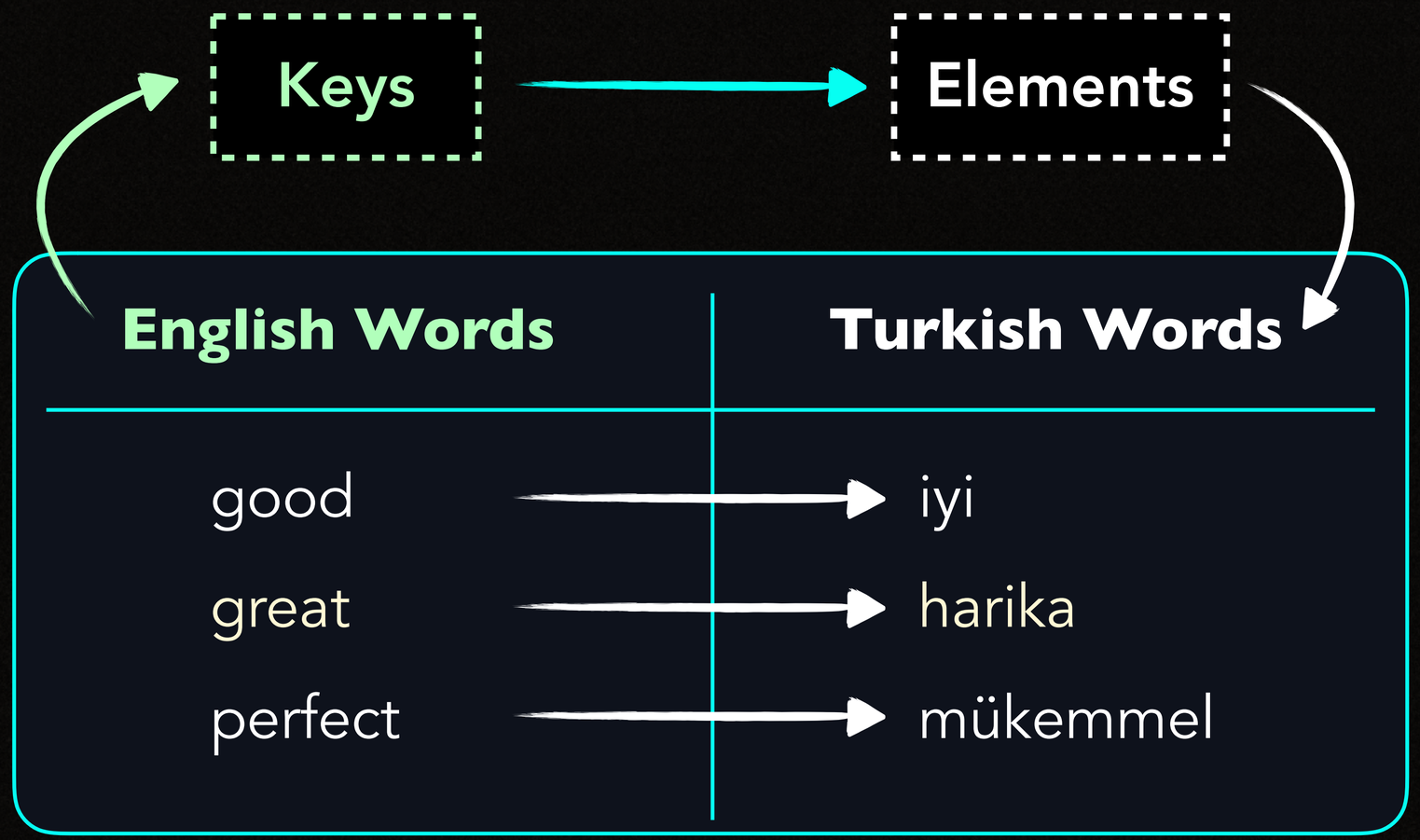
MAPS

Maps allow us to quickly access to an element using a unique key



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MAPS

Map keys should be unique or it can't find the corresponding values

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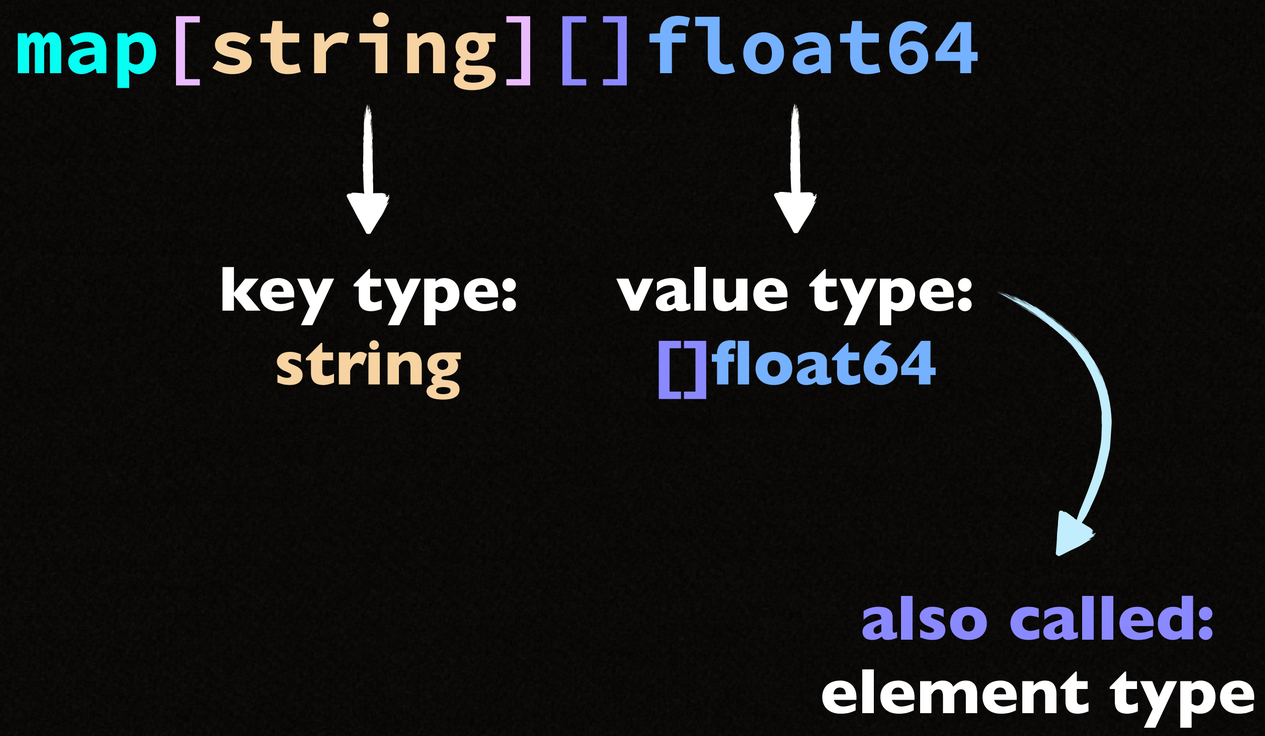
MAPS

Key and Value types don't need to match. They can be different.



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MAPS

A map key should be a comparable type

```
map[int]bool
```

comparable

```
map[[]float64]bool
```

slice, map, and function values are not comparable

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POPULATE THE DICTIONARY

Add Translations to the Dictionary

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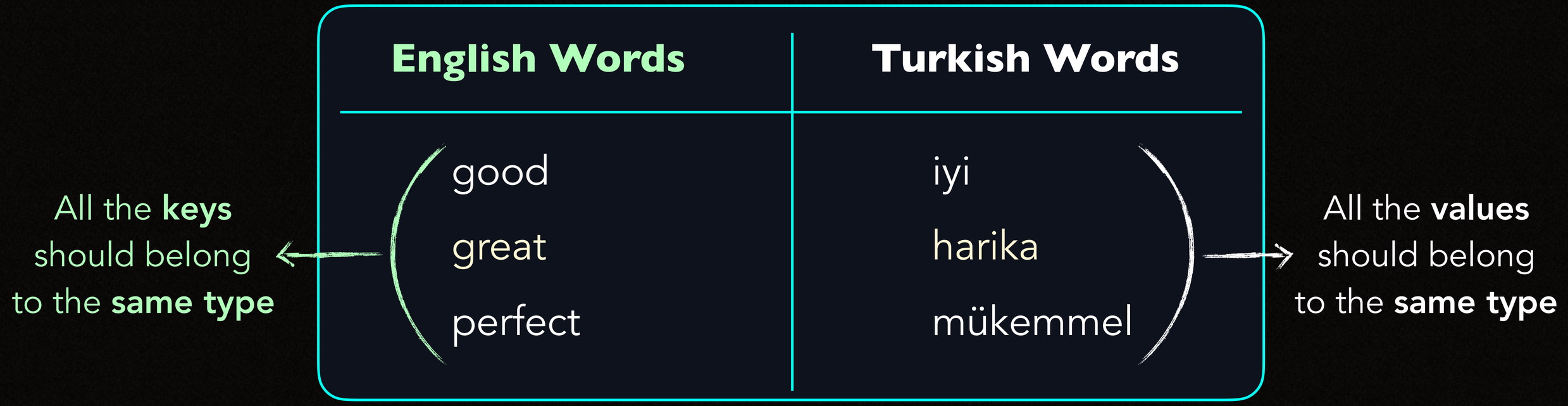
MAPS

Keys and Values should belong to the same type




```
map[string]string
```

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MAP INTERNALS + CLONING

Add a Turkish to English Dictionary by Cloning

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English Words	Turkish Words
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Turkish Words	English Words
iyi	good
harika	great
mükemmel	perfect

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The map header is located in the memory location: 40th

English Words	Turkish Words
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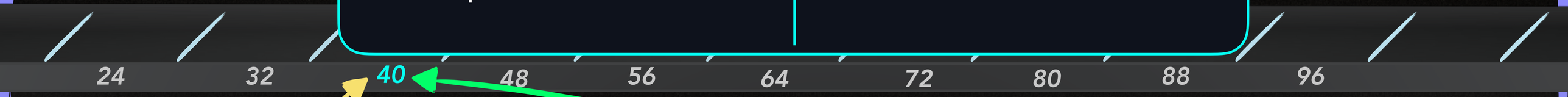


```
Map Variable: dict
Pointer        40
```

```
Map Variable: turkish
Pointer        40
```

A map variable (or a value) is a pointer to a map header value in the memory

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The map header is located in the memory location: 40th

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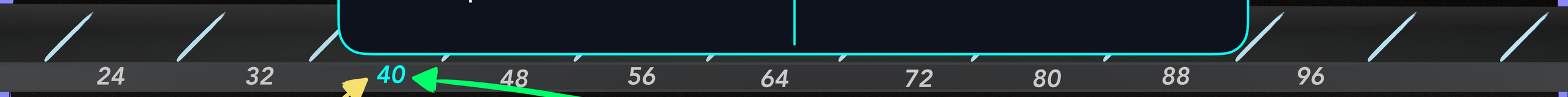


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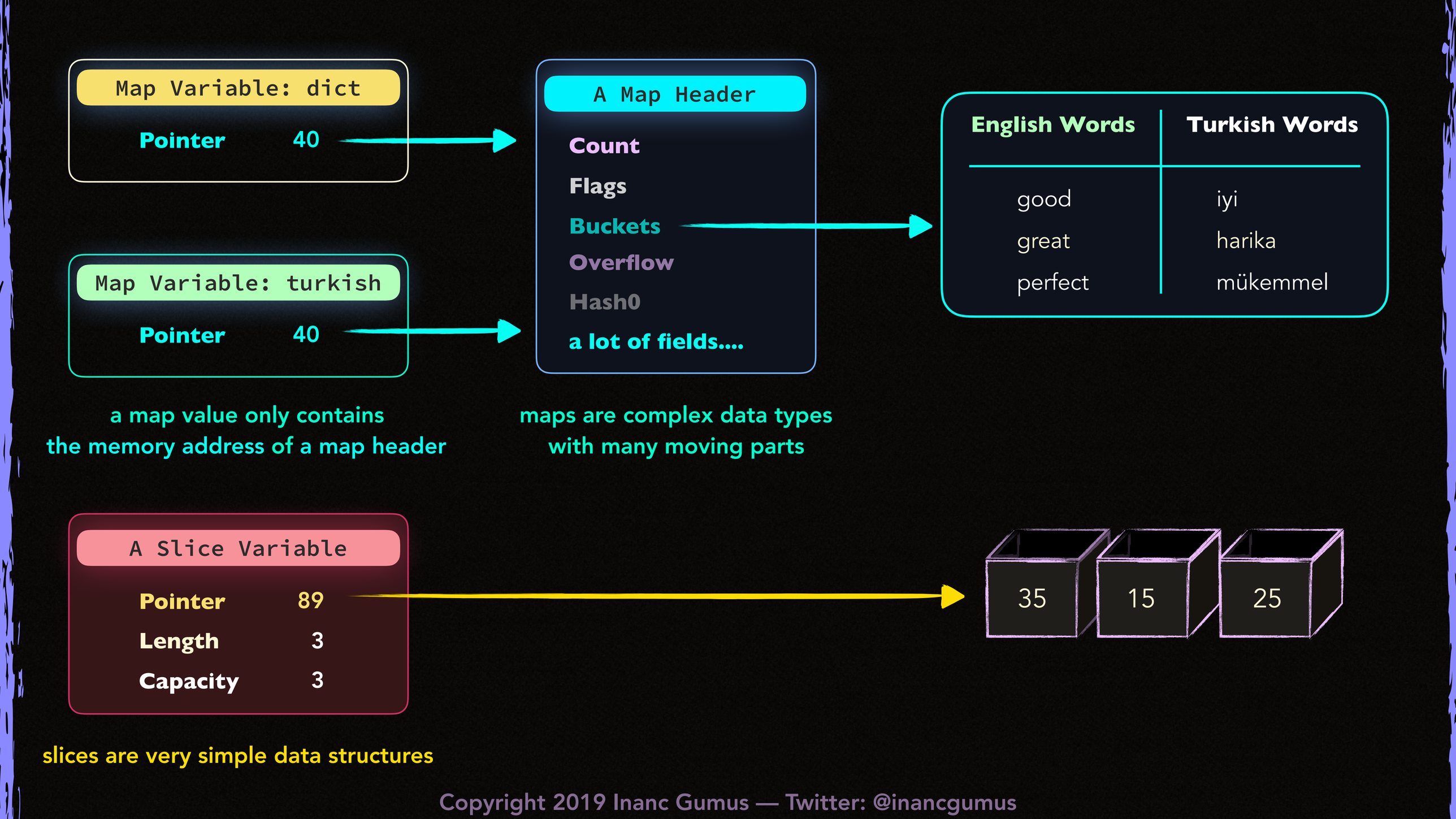

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